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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,507	11/11/2003	Raymond Bryce Bushnell	108682-133291	7225
25943	7590	10/05/2004	EXAMINER	
SCHWABE, WILLIAMSON & WYATT, P.C. PACWEST CENTER, SUITES 1600-1900 1211 SW FIFTH AVENUE PORTLAND, OR 97204			CASTRO, ARNOLD	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,507

Applicant(s)

BUSHNELL ET AL.

Examiner

Arnold Castro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/11/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country; more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong (US/5,140,966).

3. Wong discloses a fuel supply assembly for a gasoline fueled engine including a combustion chamber for combusting fuel, and an exhaust for the combusted fuel which assembly comprises: a vaporizing tank (30, 46, 76) including baffles (col. 4, line 12), a quantity of liquid gasoline fuel contained in the tank, a heating source (exhaust gas) for heating the fuel, and a temperature control for controlling the temperature of the liquid gasoline fuel as contained in the tank; said temperature control maintaining the temperature of the liquid gasoline fuel to produce vaporization of the fuel which rises from the surface of the liquid, a conduit arrangement conveying the vaporized gasoline fuel from the tank, a primary source (96) of ambient air mixed with the vaporized gasoline fuel conveyed by said conduit arrangement and said conduit arrangement conveying the intermixed ambient air and vaporized fuel to the engine for combustion; and an automatic control monitoring the engine exhaust and controlling the intermixing of the ambient air and vaporized gasoline fuel to maintain a desired hydrocarbon level in the exhaust. (Col. 9, line 22-col 10. line 11 line 57) 2. A fuel supply assembly as defined

in Claim 1 wherein a secondary source (28) of the ambient air is directed into and through the tank for collecting and conveying an enriched vaporized air and fuel mixture into the conduit to be thereafter combined with the primary source (96) of ambient air. A valve 78 is provided for one or both of the primary source of ambient air and enriched vaporized gasoline fuel and air mixture, said one or both valves controlling the intermixing of said primary ambient air and vaporized gasoline and air mixture.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong as applied to claim 1 above, and further in view of Jackson et al. (4,368,712).

6. Wong does not expressly state that the fuel supply assembly comprises a sensor sensing combustion exhaust of said engine for determining the presence of hydrocarbons in said exhaust, said valve responsive to said sensor for controlling said intermixing and to thereby maintain a desired content of hydrocarbons in the exhaust.

7. Jackson discloses a vapor fuel engine A fuel system and electronic control therefor which is especially designed for use with an internal combustion engine or the like in which said fuel system is operable to provide fuel fumes or vapor to the engine from a source of liquid ignitable vaporizable fuel, such as gasoline, of sufficient quantity

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whereby to significantly increase the efficiency of the engine and thus substantially increase the per gallon mileage rate for the engine when used in an automotive vehicle or the like, and one using liquid fuel as the original fuel source. The system incorporates an electronic control operable to monitor the combustion of the vaporizable fuel and which control is responsive to a change in engine demand for said fuel to maintain the optimum ratio of vaporized fuel and air in the mixture delivered to the engine for combustion. (Abstract)

At the time of the invention it would have been obvious to add the exhaust control teaching of Jackson to the vapor system of Wong. Motivation would be improve efficiency of engine.

Allowable Subject Matter

8. Claim 8 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is a collection of vapor type engines.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Castro whose telephone number is (703) 305-0039. The examiner can normally be reached on 7:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Arnold Castro
Examiner
Art Unit 3747

AC